

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on June 3, 2003, and the references cited therewith.

Claims 1, 7-10 and 13 were amended. Claims 1-19 are now pending in this application.

§102 Rejection of the Claims

Claims 1- 7 and 9-11 were rejected under 35 USC § 102(e) as being unpatentable over Cooper (US Patent No. 6,150,930). The rejection is respectfully traversed.

Each of these rejected claims has been amended to recite the use of a microbolometer to sense radiation. A microbolometer is used to detect long wavelengths of infrared radiation. Cooper specifically indicates that such a detector “would not provide critical information needed by a motor vehicle operator.” Col. 1, lines 36-39. Cooper specifically describes the use of “silicon detectors [that] are sensitive to (react with) electromagnetic radiation in both the visible light range and in short wavelength infrared spectrum,...” Col. 3, lines 38-40. To obtain the short wavelengths in the infrared spectrum, Cooper uses an infrared illuminator 26. A microbolometer senses inherently longer wavelengths that are typically emitted by objects to be detected. Thus, microbolometers are fundamentally different from the silicon detectors described in Cooper.

It is further noted that Cooper is clearly not optimized to detect traffic signals as claimed. Rather, it uses commercially available RGB type detectors, and in effect teaches away from any such optimization, such as directly sensing amber, corresponding to a “yellow” light.

§103 Rejection of the Claims

Claims 8 and 12-19 were rejected under 35 USC § 103(a) as being unpatentable over Cooper, and further in view of Ouvrier-Buffet et al. (U.S. Patent No. 6,320,189). This rejection is respectfully traversed.

Each of the above claims recites the use of a microbolometer. As indicated above, Cooper specifically teaches away from the use of such a device. Thus, one of average skill in the art would not be tempted to utilize the detector of Ouvrier-Buffet et al., and there is no suggestion in the art to combine them.

The Office Action indicates that it would have been obvious to combine the references. This indication is respectfully traversed. The Office Action states that “Since any conventional detector pixel arrangement is accepted by Cooper, using the arrangement shown in Ouvrier-Buffet would have been obvious to one of ordinary skill in the art at the time the invention was made.” As indicated above, this is simply not the case. Cooper specifically states that that longer wavelength IR detectors (such as a bolometer) “would not provide critical information needed by a motor vehicle operator.” Col. 1, lines 36-39. This direct teaching away would actually discourage one skilled in the art from using the Ouvrier-Buffet et al. device in the Cooper system. The references are not properly combinable, and the rejection should be withdrawn.

With respect to claims 15-18, a thermally isolating space between the first and second sensor array is admitted as not specified by Cooper. The assertion that Ouvrier-Buffet describes a thermally isolating space is respectfully traversed. Layer 23 is described as “an insulating material layer 23 forming the insulator of the phototransistor gate.” Col. 5, lines 30-31. It is electrically insulating, and is not described as having thermal insulating properties sufficient to function in a manner as claimed. Further, it is not described as a “space” as claimed. It is a solid “material”. Since claims 15-18 contain an element not shown or suggested by the references either alone or combined, the rejection should be withdrawn.

Claim 14 specifically recites an amber filter, which clearly corresponds to one of the colors of a traffic control light. Cooper describes no such thing, and is clearly not optimized to detect traffic signals. Rather, it uses commercially available detectors, and in effect teaches away from any such optimization. The Office Action uses an unsubstantiated desired result to indicate that it would have been obvious to use another type of complimentary filters. It indicates that since Cooper did not limit his invention to detecting only red, green and blue as the selective colors, but allows for the detection of others, it would have been obvious to use amber. This reasoning would make just about every improvement type invention obvious, and very few if any patents would ever be granted.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6972 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O.Box 1450, Alexandria, VA 22313-1450, on this 23 day of January, 2004

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